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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/820,348	04/07/2004	Roberto Aiello	012DIV-124	8143

44279 7590 12/28/2006  
PULSE-LINK, INC.  
1969 KELLOGG AVENUE  
CARLSBAD, CA 92008

EXAMINER
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AHN, SAM K

ART UNIT	PAPER NUMBER
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2611

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	12/28/2006	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/820,348

Applicant(s)

AIELLO ET AL.

Examiner

Sam K. Ahn

Art Unit

2611

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 19 October 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,3-7,9 and 10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-7,9 and 10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

***Response to Arguments***

1. Applicant's arguments, see p.5, filed 10/19/06, with respect to the rejection(s) of claim(s) 1,3-7,9 and 10 under 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Dress, Jr. et al. USP 6,603,818 B1 (Dress, cited previously) and Larrick, Jr. et al. US 6,690,741 B1 (Larrick).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1,3-7,9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dress, Jr. et al. USP 6,603,818 B1 (Dress, cited previously) in view of Larrick, Jr. et al. US 6,690,741 B1 (Larrick).

Regarding claim 1, Dress discloses a transmitter MAC layer (see Fig.10) comprising a clock synchronization unit (1001,1002) having a timing device with a clock speed, at least one frequency divider (1005,1003) coupled to said clock synchronization unit, said frequency divider configured to reduce said clock speed to generate a desired pulse repetition frequency (note col.8, line 43 – col.9, line 4), at least one slot allocation unit (1004) coupled to said at least one

frequency divider, and a multiplexer/demultiplexer (1008,1009) operatively coupled to said at least one slot allocation unit, said multiplexer/demultiplexer configured to merge a plurality of outgoing signals (note col.9, lines 47-56).

It is well-known in the art that the function of the frequency divider (1005,1003) delaying of a master clock to produce a delayed clock is equivalent to the function of "reducing a clock speed" to produce a desired clock. Dress teaches a frequency divider by the implementation of a programmable delay (1240) and pseudorandom polynomial generator (1220, note col.10, lines 51-55). Thus, Dress teaches the frequency divider (1005,1003) configured to reduce said clock speed to generate a desired pulse repetition frequency.

Although Dress teaches the at least one slot allocation unit (1004) coupled to said at least one frequency divider (1005,1003), Dress does not explicitly teach the slot allocation unit capable of different repetition frequencies.

Larrick teaches a transmitter (see Fig.1) having a controllable phase, frequency and amplitude parameters in order to provide different type of modulations (note col.6, lines 50-60) through the control signals (104 and input to 112), and further teaches different repetition frequencies (through controlling the frequency control 104 in Fig.1). Both Dress and Larrick teach an ultra wideband transmitter capable of signal transmission employing various types of modulation schemes, wherein Larrick further teaches that different modulation types require amplitude, phase and frequency controls, as previously explained, and as a result provides controlled center frequencies and bandwidths allowing different modulation

techniques (note col.3, lines 1-4). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to implement the teaching of Larrick in the system of Dress by controlling the frequency, phase and amplitude wherein the controlling of the frequency results in generating different repetition frequencies, for the purpose of providing controlled center frequencies and bandwidths allowing different modulation techniques (note col.3, lines 1-4).

Regarding claim 3, Dress teaches all subject matter claimed, as applied to claim 1. Dress further teaches wherein each of said at least one slot allocation unit is configured to support different modulation techniques, such as pulse amplitude modulation and on-off keying (note col.9, lines 17-46).

Regarding claim 4, the claim is rejected based on the same ground as for claim 3 because of its similar scope.

Regarding claim 5, the claim is rejected based on the same ground as for claim 3 because of its similar scope.

Regarding claim 6, the claim is rejected as applied to claim 1 with similar scope.

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Regarding claim 7, Dress teaches all subject matter claimed, as applied to claim 6. Dress further teaches wherein each of said at least one slot allocation unit has a particular pulse repetition frequency (note col.8, line 57 – col.9, line 16).

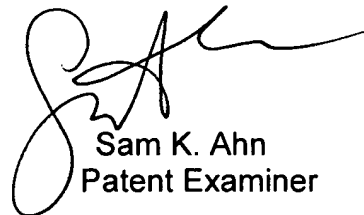
Regarding claim 9, the claim is rejected as applied to claim 3 with similar scope.

Regarding claim 10, the claim is rejected based on the same ground as for claim 3 because of its similar scope.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sam Ahn whose telephone number is (571) 272-3044. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad Ghayour can be reached on (571) 272-3021. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Sam K. Ahn  
Patent Examiner

12/26/06